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DRIGGS, LUCAS BRUBAKER & HOGG CO. L.P.A.
DEPT. IEN
8522 EAST AVENUE
MENTOR, OH 44060

EXAMINER

VIGUSHIN, JOHN B

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2841

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Please find below and/or attached an Office communication concerning this application or proceeding.

Supplemental Examiner's Answer***Introduction***

1. The present Action is responsive to the *Remand to the Examiner* (mailed July 31, 2003 as Paper No. 13) by the Board of Patent Appeals and Interferences. A precedential opinion concerning a reissue recapture rejection under 35 USC § 251 was decided May 29, 2003 in *Ex parte Eggert* (Appeal No. 2001-0790). The Board now requires the Examiner to determine whether the rejection of Claims 21-25 and 34 under 35 USC § 251 remains appropriate in view of *Ex parte Eggert*. The Examiner has carefully considered *Eggert* and does not believe the facts of *Eggert* pertain to the facts of the instant reissue application on appeal and that the rejection under 35 USC § 251 remains appropriate.

Background

2. The Applicant filed the instant reissue application believing that the original patent (US 5,483,421) is wholly or partly inoperative by reason of the patentee claiming less than they had the right to claim. Recapture is the only issue on appeal.
3. Reissue Claims 21-25 and 34 are newly added in the reissue Application. These claims are rejected under 35 USC § 251 based on the recapture doctrine. Claims 21 and 34 are independent claims, while Claims 22-25 depend from Claim 21. In the Application 07/848,467 (hereinafter "Application '467") for the patent US 5,483,421 (hereinafter "patent '421") now sought to be reissued, originally filed independent Claims 1 and 7 were twice rejected under prior art by Examiner Donald A. Sparks, twice

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modified by the Applicant, and were allowed by Examiner Sparks following a decision by the Board of Patent Appeals and Interferences (Board) who reversed Examiner Spark's rejection, accepting the Appellant's arguments.

4. On amendment in response to the Office actions in the original Application '467, the Applicant amended Claims 1 and 7 to include three limitations. (See Claim 1 reproduced below, ***emphasis added***). Also note that the amended product Claim 1 is representative of amended Claim 7, which is the process recitation of the limitations in amended product Claim 1). The Applicant argued that the prior art did not teach the three added limitations of Claims 1 and 7 in a reply to an Office Action on May 26, 1993 (Paper No. 4), again in an After Final response on September 16, 1993 (Paper No. 6), and again in the Appeal Brief on December 2, 1993 (Paper No. 9).

Claim 1 of patent '421:

1. A package mounting integrated circuit chips onto a circuit board comprising:
an integrated circuit chip having a surface array of input/output pads on one side thereof which array forms a footprint;
a chip carrier formed of an organic ***glass filled epoxy*** dielectric material having first and second opposite surfaces;
said chip carrier ***having a coefficient of thermal expansion of at least 17×10^{-6} ppm/°C***;
a first set of bonding pads formed on said first surface of the chip carrier and arranged in an array corresponding with the chip footprint;
a pattern of conductors on said chip carrier connected to accommodate said input/output pads;
a first set of solder connections interconnecting the input/output pads on the chip to said first set of bonding pads on the chip carrier;
an encapsulation material encapsulating said first set of solder connections;
a second set of bonding pads formed on the second surface of the chip carrier arranged in an array;
electrically conducting vias extend through the chip carrier connecting said first set of bonding pads to the second set of bonding pads;
a circuit board formed of an organic material having a coefficient of thermal expansion similar to the chip carrier; a set of electrical connection sites formed on said circuit

board and arranged in a pattern corresponding to the pattern of the array of the second bonding pads on said chip carrier;
a second set of solder connections interconnecting the pads of said second set of bonding pads on the chip carrier to the connection sites on the circuit board; and
wiring on said circuit board connected to said second set of bonding pads.

Analysis

5. In the present instance, the original independent Claims 1 and 7, which were rejected in the original Application '467 by Examiner Sparks based on prior art, did not contain:

Element X: "glass filled epoxy"

Element Y: "having a coefficient of thermal expansion of at least 17×10^{-6} ppm/°C;"

Element Z: "an encapsulation material encapsulating said first set of solder connections;"

6. To overcome the first prior art rejection against the independent claims, the Applicant rewrote those claims to add Elements (limitations) X, Y and Z. Following the second prior art rejection, Applicant argued that the newly cited references also did not teach the concept, particularly having the three added Elements X, Y and Z. In its decision, the Board agreed with the Appellant and further supported Appellant's argued grounds for patentability, most particularly regarding Element Y. (See Board decision in application 07/848,467, Paper No. 16, June 14, 1995 at pages 5-8). Presently, on reissue, it is the present and previous Examiners' position that the Applicant is not permitted to completely delete the added limitations X and Y, whose argument of criticality by the Applicant was accepted by the Board in the original Application '467.

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The Applicant made the choice of adding and relying upon Elements (limitations) X, Y and Z. The Applicant chose not to prosecute variations of the original claims not including Elements (limitations) X, Y and Z. Presently, on reissue, the Applicant is not permitted to completely delete the added limitations X and Y, whose argument of criticality by Applicant was accepted by the Board in the original Application '467. See *Pannu v. Storz Instruments, Inc.*, 258 F.3d 1366, 59 USPQ2d 1597 (Fed. Cir. 2001), discussed below, as well as the additional discussion of this issue.

7. The decision in *Ex Parte Eggert* is **not applicable** to the facts of the instant appeal. Claims 21-25 and 34 on appeal omit the surrender-generating limitations (i.e., the limitations added in the original prosecution to define over the art to secure allowance of the patent). This is because two of the three added limitations of patented Claims 1 and 7, which are represented, as indicated above, as Element X and Element Y, respectively, **in their entirety**, are essentially **absent** from the reissue Claims 21-25 and 34. It is to be noted that the Board focused on the Element Y limitation argued by the Applicant to define over the prior art rejection. However, the Element X limitation goes hand-in-hand with the Element Y limitation. Thus, the two critical limitations were **deleted in their entirety**; whereas, in *Eggert*, the critical limitation was **retained in broadened form**. Therefore, the facts of the present reissue Application on appeal are distinguished from *Eggert*, and the reissue Claims 21-25 and 34 impermissibly recapture what was previously surrendered, as explained below and in pp. 4-10 of the Examiner's Answer (Paper No. 10).

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8. Patent Claims 1 and 7 recite Elements X, Y and Z, which were allowed by Examiner Sparks following the reversal of the Board. The reissue Claim 21 and its dependent Claims 22-25, and Claim 34, fail to recite **both** Elements X and Y, though still reciting Element Z. Reissue Claims 21-25 and 34 are broader than the patented Claims 1 and 7 by not including the surrender-generating limitations, i.e., Elements X and Y, of patented Claims 1 and 7. This broadening of the claims is barred by the recapture rule even though there is a retention in the claims of the Element Z ("an encapsulation material encapsulating said first set of solder connections") which is **not related to** the surrender-generating limitations (Elements X and Y); i.e., Element Z does not pertain to the type and properties of the chip carrier material of the omitted surrender-generating limitations (Elements X and Y).

9. In view of *In re Clement*, 131 F.3d 1464, 45 USPQ2d 1161 (Fed. Cir. 1997), if a reissue claim is broader in an aspect germane to what was surrendered in response to a prior art rejection, and is not narrowed in an aspect related to what was surrendered, the recapture rule bars the claim. *Hester Industries, Inc. v. Stein, Inc.*, 142 F.3d 1472, 46 USPQ2d 1641 (Fed. Cir. 1998) and *Pannu v. Storz Instruments, Inc.*, 258 F.3d 1366, 59 USPQ2d 1597 (Fed. Cir. 2001) pointed out that one should look at the limitation **relied upon to define the invention over the prior art**, and determine if that limitation is omitted in the reissue claims. Note also the statement in *Clement* that every time the claims are narrowed by amendment, subject matter is surrendered. *Clement*, 131 F.3d

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at 1471, 45 USPQ2d at 1166 (“[E]very time *Clement* amended his claims, he intentionally omitted or abandoned the claimed subject matter.”).¹

10. The limitations of Elements X and Y in Claims 1 and 7 of the original patent ‘421 are germane to what was surrendered in response to a prior art rejection, as these claims were allowed by Examiner Sparks following the decision by the Board. Similar to the facts in *Pannu v. Storz Instruments, Inc.*, 258 F.3d 1366, 59 USPQ2d 1597 (Fed. Cir. 2001), the Applicant has **broadened** the reissue claims **in an aspect germane to what was surrendered in response to the prior art rejection**, and has **not replaced** the omitted limitation by **a broadened form of the limitation that is related to this surrender**. It is noted that the Appeal Brief states on pages 4-5 that reissue Claims 21 and 34 contain Element Z which “does not appear in the claims as originally filed.” However, in *Clement*, it was made clear that the presence of a limitation in the reissue claims that was not present in the originally filed claims of the original Application does not save the claims from recapture, where critical relied-upon limitations are omitted in the reissue claims. Further, as stated by the present Examiner in his Final Action (see the last five lines on p.3 of Paper No. 7), the Element Z, “was not considered to be germane to the prior art rejection given in Application ‘467.” In this instance, there is no apparent replacement narrowing limitation that relates to and is a broadened version of

¹ This statement that every time the claims are narrowed by amendment, subject matter is surrendered, calls for analyzing reissue claims for whether a key narrowing that was made in the original prosecution has abandoned, i.e., surrendered, subject matter that the patent owner is now seeking to recapture by reissue. Thus, the insertion of a narrowing limitation unrelated to the abandoned (surrendered) claim subject matter that patent owner is impermissibly trying to recover does not save the claim from the recapture doctrine.

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the omitted surrender-generating limitations (Elements X and Y), which pertain to the material of the chip carrier and the coefficient of thermal expansion of that material.


Conclusion

11. Because reissue Claims 21-25 and 34 **omit** the surrender-generating limitations of Elements X and Y, and fail to include a broadened replacement limitation in the area of the surrender, *Pannu*, *Hester* and *Clement* are on point, while *Eggert* is not, and Claims 21-25 and 34 impermissibly recapture what was previously surrendered.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Vigushin whose telephone number is 571-272-1936. The examiner can normally be reached on 8:30AM-5:00PM Mo-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John B. Vigushin
Primary Examiner
Art Unit 2827

jbv
March 02, 2004